We claim:

1. A laser sintering method, comprising providing a material on a substrate, completely sintering the material on the substrate and enhancing adhesion of the material to the substrate without damaging the substrate.

2. The method of claim 1, wherein the sintering comprises providing a laser for sintering the material.

3. The method of claim 2, wherein the sintering comprises interacting energy from the laser with the material to be sintered and with the substrate thereby allowing for a complete heating process.

4. The method of claim 3, further comprising heating a top of the material by the laser, heating a bottom of the material by the substrate, and allowing a thermal spread throughout the material for sintering of the material completely.

5. The method of claim 4, further comprising controlling adhesion of the material on the substrate by maintaining a similar temperature between the substrate and the material for enhancing adhesion.

6. The method of claim 5, wherein the controlling further comprises stopping the adhesion by causing a temperature difference between the substrate and the material such that a temperature gradient stops the adhesion.

7. The method of claim 2, wherein the sintering comprises interacting the laser with the material and the substrate with controlled exposure times for providing complete heating.

8. The method of claim 7, further comprising allowing diffusion of heat for sintering throughout the material.

9. The method of claim 7, wherein the sintering comprises injecting high energy into the material with the laser and translating injected energy to heat.

10. The method of claim 9, further comprising determining absorption behavior and determining effects of pulse duration.

11. The method of claim 10, further comprising obtaining peak power in a gigawatt range with low energy per pulse and with short pulses.

12. The method of claim 10, further comprising controlling and optimizing pulse duration.

13. The method of claim 12, wherein the controlling comprises providing shorter pulse duration, confining interaction of the laser energy to a surface of the material on the substrate and sintering a thin top layer of the material but not a middle layer or a bottom layer of the material.

14. The method of claim 12, wherein the controlling comprises providing shorter pulse duration thereby controlling penetration depth of the energy into the material for sintering the material as desired.

15. The method of claim 14, wherein the controlling comprises controlling the pulse duration and making the penetration depth equal to a thickness of the material.

16. The method of claim 10, further comprising monitoring behavior of thermal wave of the energy throughout the material

with a thermal-imaging camera.

17. The method of claim 1, further comprising coating the substrate with a shield and protecting the substrate from laser damage during the sintering process.

18. The method of claim 17, wherein the coating with the shield comprises coating the substrate with a thermal barrier coating and protecting the substrate from damage.

19. The method of claim 18, further comprising forming electronic components by the sintering while protecting the substrate from damage.

20. The method of claim 18, wherein the substrate is a low temperature substrate.

21. The method of claim 2, wherein the sintering comprises sintering at least one thin top layer of the material.

22. The method of claim 21, further comprising forming a highly reflective mirror with the sintered top layer, reflecting and diverting energy from the laser, and preventing sintering from occurring throughout the material deposited on the substrate.

23. The method of claim 22, further comprising ensuring reproducibility through a feedback control system.

24. The method of claim 23, wherein the feedback control system is a pyrometer having a small spot size.

25. The method of claim 23, further comprising providing an output of the pyrometer to a computing device.

26. The method of claim 25, further comprising controlling

the laser with the computing device responsive to a processing of the output for an active thermal feedback in controlling the laser.

27. The method of claim 26, wherein the feedback is open-loop or closed-loop feedback.

28. The method of claim 26, further comprising providing an interface for real time use by end users.

29. Apparatus for sintering, comprising a substrate, a material to be sintered on the substrate, and at least one laser for sintering the material.

30. The apparatus of claim 29, wherein the at least one laser comprises a laser selected from the group consisting of CO_2 laser, diode-pumped Nd:YVO_4 laser, and combinations thereof.

31. The apparatus of claim 29, further comprising a computing device for receiving and processing data and automatically controlling sintering operation.

32. The apparatus of claim 29, further comprising a protective layer on the substrate.

33. The apparatus of claim 30, wherein the substrate is a low temperature substrate and wherein the protective layer is a protective thermal barrier for preventing damage to the substrate during sintering and for enhancing adhesion of the material to the substrate.

34. The apparatus of claim 33, wherein the thermal barrier is an aerogel.

35. The apparatus of claim 33, wherein the substrate, the

material, and the protective thermal barrier form an electronic component.

36. The apparatus of claim 31, further comprising a feedback control system coupled to the computing device.

37. The apparatus of claim 36, wherein the feedback control system is a pyrometer with a small spot size.

38. The apparatus of claim 37, further comprising output from the pyrometer being provided to the computing device for processing and controlling an output of the laser.

39. The apparatus of claim 36, wherein the feedback control system is an open-loop feedback system.

40. The apparatus of claim 36, wherein the feedback control system is a closed-loop feedback system.

41. The apparatus of claim 29, wherein the material has a shape.

42. The apparatus of claim 29, wherein the substrate has a shape.